THE INDIANA

FARMER & GARDENER.

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INDIANA FARMER & GARDENER.

Indianapolis, Saturday, November 8, 1845.

☞ The absence of Mr. BEECHER will account for a want of editorial matter in this number of the Farmer and Gardener. The selections it contains, have been made by one not very competent to the task assumed. Whatever of heresy may be found in its columns will be corrected by the editor, in a subsequent number.

The Second Volume.

The first number of the Second Volume of this paper will make its appearance, in new and elegant dress, on the first day of next month. Now is the time for old subscribers to send in their orders for a continuance, and for those who have not been subscribers to become so. It is the determination of the editor and publisher to furnish the farmers of this State a paper every way worthy of their patronage, and to do so have incurred great expense. For its re-imbursment they rely mainly upon the agricultural community.

Letter from the Editor.

LAPORTE, Oct. 21, 1845.

If any one wishes to know what the "*ups and downs*" of life mean, let him take a trip north on the Michigan road, after wheat wagons and rain have put the best face upon the corduroy. In some parts of the way besides all the original depths of mud, the *cross-waying* is so broken to pieces, pierced with *holes*, and otherwise injured, that it may be called an arch-trap to catch horses' legs and carriage wheels. Churches, School-houses and *good roads*, are three infallible marks of *public* spirit. The common excuse, that in a new country there is no time to make roads, will be admissible when less time is wasted in towns, in political soldiering, in lounging and resting at home. We think that there is in the State rather a want of *public spirit*, than of men or time to make good roads.

Logansport. — This is a beautiful location for a town, and if well improved will be one of the most delightful in the State. It has very great water-power, and will probably become a great manufacturing place. The first quality of limestone abounds in the vicinity, affording stone and lime for building. We visited our friend, W. Z. Stewart's residence, and looked at his Durhams, and Berkshires, in behalf of which he shews himself quite enthusiastic, and if he were upon a farm, I have no doubt would become a very successful breeder of improved stock.

We also visited Daniel Embree's nursery and grounds, which are being stocked with a choice selection of fruits, and more particularly of the apple. The soil on which Mr. Embree's nursery and garden stand is underlaid by limestone rock; but this cannot have any material effect upon the quality of the superincumbent soil, and we think our friend would find his soil much benefitted by dressing it with lime.

Laporte.—On crossing the Wabash and journeying north, one perceives himself to be in an entirely different geological formation. Sand now bears the same proportion in the soil that clay does south of that river. The country is open, the road traversing small prairies, which being to a great extent under fence, in some parts give the appearance of an old country. Between Plymouth and Laporte we crossed the Kankakee, a name as famous and significant of marshes and mud, as *Pontine* is in Europe. The road on either side of the boggy, sprawling, river was good; but in wet seasons immense tracts of land are covered with water. We had pictured in our imagination a broad waste of black marsh, gloomy and desolate; and were taken by surprise when, at a full trot across a raised road which lay through a wet prairie, we came to a long bridge; none other, as we knew, than the Kankakee bridge. But the scene was any thing but dreary. For hundreds of yards on each side of the river the water seemed to lie a foot or two deep, and a strong, reedy grass, five or six feet in height, waved over it like an immense harvest white for the sickle; for the top of the grass was very white, and the river, with no perceptible current, lay in the midst. Flocks of small birds were flying about among the grassy forest; and what was much more exciting to us, flocks of wild duck were sporting on the open stream, or threading their way through the stems of grass and sedge. Thousands and thousands of acres are covered by this marsh, which, without doubt, will one day be drained and form the choicest land. The Michigan road, which should have gone to Laporte, was diverted from its course by the belief that the Kankakee was impassable! Nothing more beautiful to a farmer's eye, can be conceived of than Laporte county. We do not dare to express all our admiration for fear of seeming to exaggerate. It is a prairie country, but full of beautiful oak groves, affording timber for economical purposes, and beauty enough to satisfy the most fastidious. The soil is a vegetable loam with a large admixture of sand, and such as we examined appeared more like the finest garden soil, than a farm-soil. I should not forget to mention the multitude of beautiful lakes found throughout this region, which greatly add to the beauties of the landscape.

I was so fortunate as to arrive in Laporte on the first day of thir annual fair, or, as Mr. Allen would prefer to say, of the agricultural '*show*.' The first day was for the exhibition of stock, which I did not see. On the second day a plowing match came off; we all then repaired to the Methodist church to listen to a very neat and eloquent address from Mr. Hathaway; afterwards an agricultural dinner was served; and the afternoon was devoted to an exhibition at the Court House of domestic manufactures. The whole passed off with great spirit, and was gratifying to me as an evidence of public spirit in the county. A more particular notice of the farming operations of this region must be reserved to another letter.

"*Our true Duty is to Prevent and not to Punish.*"—Lord Denman, in his charge to the Worcestershire grand jury, made the following excellent remarks: "It is not the punishment of men for crime that is the most effectual means of preventing it. We ought to remove the cause, by attending to the wants of those in the humble ranks of life, and by providing them with a useful and religious education, giving them a higher moral tone and worthier aspirations to their minds and actions, thus elevating them from the degrading position in which unfortunately too many of them now are. The desire and endeavor to benefit the people and thus prevent crime, which has been too long neglected, ought to actuate those placed in affluence and authority, instead of a total carelessness about the cause, and an over anxiety to punish the criminal—banish him from his family and friends and consign him to the contaminating influences of a gaol.—Our true duty is to prevent and not to punish."

We extract the following from an excellent address delivered before the Laporte County Agricultural Society by GILBERT HATHAWAY, Esq., on the 17th of Oct., 1845:

Formerly, and not long since too, to read and write, and may be to add, and multiply, was deemed sufficient education for the sons of farmers. Why do we wish to fill them with book learning? said they, it only makes them proud, and teaches them how to be wicked and knavish; better are they without it.

But now another spirit has been awakened, farmers believe that the mind of man was not given him for nought. They have learned that it as susceptible of cultivation as the soil which they till, that the methods of improvement are as various as are the methods of other cultivation; that the cause of planting is not more certain of producing a crop, than the sowing the seeds of learning are to effectuate in intelligence and happiness. That the effect of neglect in planting the seeds of education is as certain as the effect of negligent tillage of the earth. That if the mind is allowed to grow up unimproved, if the seeds of *ignorance* and *vice* are allowed to take root and flourish in the mind, the consequences will be as unprofitable to the possessor, as is the field allowed to run to waste,—to grow with tares and thistles to the owner. This spirit is in many places being reduced to practical benefit, we find farmers first in all efforts to establish schools and colleges. Already have they begun to have what are called the higher branches taught their children. The rich fields of philosophy are being explored and her treasures brought to enrich the husbandman's dwelling. The rocky paths of Geology and Mineralogy have many a traveller among the sons of agriculturists, and their unexplored stores continue to entice them on from one discovery to another till ere long they will reach the very arcana of nature, and be enabled to bring her vast resources to bear upon the cultivation of the earth; the secrets of nature's workings, the mysteries of her great labratory are being discovered and revealed by the aid of the Chemist's deep researches; the air, water, fire, electricity and galvanism, in short, all the elements are being understood and so combined as to centre them upon this one great and all-important point the cultivation of the Earth. These discoveries and combinations are being understood by the enlightened farmer; already in many places by the aid of science, has such perfection been attained in the growing of grain, and the production of fruits, as to drive from competition all who adhere and follow the old exploded notions of our fore-fathers.

Wool growing, and raising of cattle are branches of agriculture which have also received an impetus from the improvements of the day; the gaunt, long coarse wooled species of sheep so common on our plantations a few years since, have given away to the well-developed, fine wooled varieties of Saxony and merinoes; and that variety of cattle, which seemed to be for no other purpose than to furnish material for the tanner and comb manufacturer, so recently found among us, are fast being displaced by the Durham and other improved breeds. The prairie pike and aligator breeds of swine have been quite driven from our borders, by their betters, the Lancanshires and Berkshires.

And the horse, that noble animal and most trusty servant which adds so much to the comfort and convenience of man, has of late received great attention, and to so great perfection has the breeding been carried, that really time and space seem to have been annihilated by his fleetness, and we cease not to wonder at his astonishing performances. Great emulation is raised among persons engaged in this business; in producing the most perfect combinations of strength, speed and beauty.

And while we are contemplating these great improvements in the growing of grain; sheep and cattle raising, we should not overlook the arrangements which are made towards bringing the great varieties of fruit to perfection.

The apple in all its varieties—the choicest and most valuable of all fruits of our clime—has by care, and attention in cultivation, been brought to almost an incalculable state of perfection; peaches, pears, plumbs, cherries, and almost every variety of fruit, not forgetting the goosberry and grape, are receiving at the hands of competent persons due attention, and have already been brought to a great state of perfection.

And too, while we contemplate these things, our minds intuitively run from fruits to flowers, the cultivation of which is but the hand maid of the other; and perhaps I will be indulged in an episode on this subject; who so dull and insensible to the charms and beauties of nature, as not to love the budding blossom, and the full blown flower? And while the farmer and his sons are busily and laboriously employed in the cultivation of the fields, and tending his lowing herds, and bleating flocks, while they spend their leisure in perusing works upon agricultural chemistry, and treatises on wool-growing, why may not his daughters, as relaxation from other cares, devote some time to the study of Botany and the cultivation of flowers? What employment more delightful for the female than to plant the ten-

der slip, and to prune and to cherish it in its growth? What adds more to the comfort of our homes and firesides, and sheds a more cheering influence over the mind of the father and brother, than the well-cared for stand of house plants?

Their fragrance fills the apartment with the richest perfume, and adds much to cheer the family circle in a winter evening. Besides, the contemplation of some of her varieties, would add a grace to her person, others a charm to her manner, from one she would borrow the blush of health, another would lend cheerfulness of will and disposition, while from them all, she would learn modesty, woman's greatest ornament. O why may not woman be a votary of Flora, and worship at her shrine! Contemplations of this kind, if properly carried out cannot but be of utility to every friend of agriculture and lead him to efforts of like advancement.

It may be asked what are the causes that have produced these results and led to these improvements. I answer that these results are almost entirely traceable to the efforts of agricultural societies. In our own country, the State of New York perhaps, takes lead in these matters. There is not a county in the State without her society, and it is not an uncommon thing to see, half or more of the farmers in each county members of the same, a praiseworthy emulation is raised among them and the result is great perfection in all matters which jointly come under their consideration. Her western counties, but a few years since, a wilderness, now are teeming with rich and pleasant villages and towns. So rapid has been her progress in wealth and importance that already is she reckoned, and bears the enviable title of the Empire State. 'Tis true, commerce and manufactures have lent their aid to this advancement, but the moving power has been agriculture, and that branch has been augmented in its power and efficacy, by reason of her associations. She has dug her wealth from her own soil. She has drawn rich sustenance from her own bosom, which has invigorated every limb, and caused her to expand in every department both of mind and body. And is not this a pleasing thought to the agriculturists of this State? and is not the case of our elder sister a bright example for us of later birth? Will Indiana with her rich stores of agricultural wealth remain *idle* and listless while her neighbors are rapidly marching to wealth and happiness? Will she be content with the old routine of methods, without one effort to improve? I trust not. I know the people of this, my State of adoption; they will not remain long inactive, they will arouse and seize the golden opportunity of placing themselves in the line of march to wealth and grandeur.

Why remain in debt, when we have the means of paying within our reach. The very soil we tread upon contains rich stores of gold, and only requires the adoption, and energetic prosecution of those means and methods which science, and modern improvements have put in our hands."

The Apple.

The apple is the world-renowned fruit of temperate climates. From the most remote periods it has been the subject of praise among writers and poets, and the old mythologies all endow its fruit with wonderful virtues. The alegorical tree of knowledge bore apples, and the celebrated golden fruit of the orchards of Hesperus, guarded by the sleepless dragon which it was one of the triumphs of Hercules to slay, were also apples according to the old legends. Among the heathen gods of the north, there were apples said to possess the power of conferring immortality, which were watched over by the goddess Iduna, and kept for the desert of the gods who felt themselves growing old. As the mistletoe grew chiefly on the apple and the oak, the former was looked upon with great respect by the ancient Druids, of Britain, and even to this day in some parts of England, the antic custom of saluting the apple trees in the orchard in the hope of obtaining a good crop the next year, still lingers among the farmers of portions of Devonshire and Hampshire. This odd ceremony consists in saluting the tree with a portion of the contents of a wassail bowl of cider, with a toast in it, by pouring a little of the cider about the roots, and even hanging a bit of the toast on the branches of the most barren, the farmer and his men dancing in a circle round the tree, and singing rude songs like the following:—

"Here's to thee, old apple tree,
Whence thou mayst bud, and whence thou mayst blow,
And whence thou mayst bear apples enow;
Hats full—caps full—
Bushels and sacks full—
Huzza!"

Propagation.—The apple for propagation is usually raised from seeds obtained from the pomace of the cider mills, and a preference is always given to that from thrifty young orchards. These are sown in autumn, in broad drills, in good mellow soil, and they remain in the seed-beds, attention being paid to keeping the soil loose and free from weeds, from one to three years, according to the richness of the soil. When the seedlings are a little more than a fourth of an inch in diameter, they should be taken up

in the spring or autumn, their tap roots shortened, and then planted in nursery rows, one foot apart and three to four feet between the rows. If the plants are thrifty and the soil good, they may be budded the following autumn, within three or four inches of the ground, and this is the most speedy mode of obtaining strong, straight, thrifty plants. Grafting is generally performed when the stocks are half an inch thick.

Apple trees for transplanting to orchards, should be at least two years budded, and six or seven feet high, and they should have a proper balance of head or side branches.

Soil and situation.—The apple will grow on a great variety of soils, but it seldom thrives on very dry sands, or soils saturated with moisture. Its favorite soil, in all countries, is a strong loam of a calcareous or limestone nature. A deep, strong, gravelly, marley or clayey loam, or a strong sandy loam on a gravelly subsoil, produces the greatest crops, and the highest flavored fruit, as well as the utmost longevity of the trees. Such a soil is moist rather than dry, the most favorable condition for this fruit. Too damp soils may often be rendered fit for the apple by a thorough draining, and too dry ones by deep sub-soil plowing, or trenching, where the subsoil is of a heavier texture. And many apple orchards in New England are very productive and flourishing on soils so stony—though naturally fertile—as to be unfit for any other crop.

As regards site, apple orchards flourish best in the southern and middle portions of the country, on north slopes, and often even on the steep north sides of hills where the climate is hot and dry. Farther north a southern or south-eastern aspect is preferable, to ripen the crop and the wood perfectly.

Planting and cultivation of orchards.—With the exception of a few early and very choice sorts in the fruit garden, the orchard is the place for this tree, and indeed when we consider the great value and usefulness of apples, it is easy to see that no farm is complete without a large and well selected orchard.

The distance at which the trees should be planted in an orchard, depends on the mode in which they are to be treated. When it is desired finally to cover and devote the whole of the ground to the trees, thirty feet apart is the proper interval, but where the farmer wishes to keep the land between the trees in grain and grass, fifty feet is not too great a distance in strong soils. Forty feet apart, however, is the usual distance at which the trees are planted in apple orchards.

Before transplanting, the ground should be well prepared for the trees, and vigorous healthy young trees should be selected from the nurseries.

As there is a great difference in the natural growth, shape and size of the various sorts of appletrees, those of the same kind should be put in a row together, or near each other, this will not only facilitate culture and gathering of the fruit, but will add to the orderly appearance of the orchard.

It is an indispensable requisite in all young orchards, to keep the ground mellow and loose by cultivation, at least for the first few years, until the trees are well established. Indeed of two adjoining orchards, one planted and kept in grass, and the other plowed for the first five years, there will be an incredible difference in favor of the latter.

Not only will these trees show rich, dark, luxuriant foliage, and clean smooth stems, while those neglected will have a starved and sickly look, but the size of the trees in the cultivated orchard will be treble that of the others at the end of that time, and a tree in one will be ready to bear an abundant crop before the other has yielded a peck of good fruit.

Fallow crops are the best for orchards—potatoes, vines, buckwheat, roots, Indian corn, and the like. An occasionall crop of grass or grain may be taken, but clover is rather too close-rooted and exhausting for a young orchard; when this or grass is grown among young trees for a year or two, a circle of two or three feet in diameter should be kept loose by digging every season about the stem of each tree.

When the least symptom of failure or decay in a bearing orchard is perceived, the ground should have a good top-dressing of manure, and of marl or mild lime, in alternate years. It is folly to suppose that so strong-growing a tree as the apple, when planted thickly in an orchard, will not after a few heavy crops of fruit, exhaust the soil of much of its proper food. If we wish our trees to continue in a healthy bearing state, we should manure them as regularly as any other crop, and they will amply repay the expense. There is scarcely a farm where the *waste* of barn-yard manure—the urine, etc., if properly economized, by mixing this animal excrement with the muck-heap—would not be amply sufficient to keep the orchard in the best condition. And how many moss-covered, barren orchards, formerly very productive, do we every day see, which only require a plentiful supply of food in a substantial top-dressing, a thorough scraping of the stems and washing with diluted soft soap, to bring them again into the finest state of vigor and productiveness.

The bearing year of the apple in common

culture, only takes place every alternate year, owing to the excessive crops it usually produces, by which they exhaust most of the organizable matter laid up by the tree, which then requires another season to recover, and collect a sufficient supply again to form fruit buds. When half the fruit is thinned out in a young state, leaving only a moderate crop, the apple like other fruit trees will bear every year, as it will also if the soil is kept in high condition. The bearing year of an apple tree, or a whole orchard may be changed by picking off the fruit when the trees first show good crops, allowing it to remain only on the alternate seasons which we wish to make the bearing year.—*Downing's Fruits and Fruit Trees.*

Blind Bridles.

Look and reflect; use your own intellect. Yes, use your thinking powers, friends, they were given you to use and not abuse. Blind bridles! truly named, surely. Art never invented a more fatal thing to the eyes of horses than when she devised this plan of depriving the horse of what nature intended he should enjoy. But, says one, why are blinders injurious to the horse? Because they gather dirt and heat around the eyes. Dirt irritates the eye and heat produces inflammation. These bridles so entrammel the eyes of the horse, that he is compelled to be constantly straining them to see his way. This over exertion of the nerve soon brings on disease. Eyes were not made in vain. Had they been needless, they would not have been located in the head. They were placed on the corner of the head that he might have the advantage of looking in different directions. Men, in the abundance of their imaginary wisdom, concluded the horse had too much sight, and they wished to curtail it; hence the origin of blind bridles. Think of this seriously and you will abandon the use of so destructive an appendage. Remember, that blind bridles and diseased eyes are inseparably connected. Custom hoodwinks the senses of men, as much as blind-bridles do the vision of horses.

John Maddock,
Furrier and Blacksmith.

Where is the use of blind halters? if horses were unaccustomed to them, they would be no more liable to frighten without, than with them. Why are they not just as necessary with the saddle, as in the carriage or the team? Who would think of sitting on a saddle with his horse's eyes three-fourths shut out from the light of day! and how much finer and nobler would this noble animal appear in all situations, with his eye untrammelled!—*Farmers' Cabinet.*

The Van Mons Theory.

Dr. Van Mons, Professor at Louvain, devoted the greater part of his life to the amelioration of fruits. His nurseries contained in 1823, no less than two thousand seedlings of merit. His perseverance was indefatigable, and experimenting mainly on pears, he succeeded in raising an immense number of new varieties of high excellence. The Beurré Diel, De Louvain, Frederic of Wurtemberg, &c., are a few of the many well known sorts which are the result of his unwearied labors.

The Van Mons theory may be briefly stated as follows:

All fine fruits are artificial products; the aim of nature, in a wild state, being only a healthy, vigorous state of the tree, and *perfect seeds* for continuing the species. It is the object of culture, therefore, to subdue, or enfeeble this excess of vegetation; to lessen the coarseness of the tree; to diminish the size of the seeds; and to refine the quality and increase the size of the flesh or pulp.

There is always a tendency in our varieties of fruit trees to return by their seeds towards a wild state.

This tendency is most strongly shown in the seeds borne by *old* fruit trees. And "the older the tree is of any cultivated variety of pear" says Dr. Van Mons, "the nearer will the seedlings, raised from it, approach a wild state, without, however, ever being able to return to that state."

On the other hand, the seeds of a young fruit tree of a good sort, being itself in the state of amelioration, have the least tendency to retrograde, and are the most likely to produce improved sorts.

Again, there is a certain limit to perfection in fruits. When this point is reached, as in the finest varieties, the next generation will more probably produce bad fruit, than if reared from seeds of an indifferent sort, in the course of amelioration. While, in other words, the seeds of the oldest varieties of good fruit mostly yield inferior sorts, taken from recent varieties of bad fruit, and *reproduced uninterruptedly for several generations*, will certainly produce good fruit.

With these premises, Dr. Van Mons begins by gathering his seeds from a young seedling tree, without paying much regard to its quality, except that it must be in a state of *variation;* that is to say, a garden variety, and not a wild sort. These he sows in a seed-bed or nursery, where he leaves the seedlings until they attain sufficient size to enable him to judge of their character. He then selects those which appear the most promising, plants them a few feet distant in the nursery, and awaits their fruit. Not discouraged at finding most of them of me-

dium quality, though differing from the parent, he gathers the first seeds of the most promising and sows them again. The next generation comes more rapidly into bearing than the first, and shows the greater number of promising traits. Gathering immediately, and sowing the seeds of this generation, he produces a third, then a fourth, and even a fifth generation, uninterruptedly, from the original sort. Each generation he finds to come more quickly into bearing than the previous one,—the fifth sowing of pears fruiting at three years,—and to produce a greater number of valuable varieties; until in the fifth generation the seedlings are nearly all of great excellence.

Dr. Van Mons found the pear to require the longest time to attain perfection, and he carried his process with this fruit through five generations. Apples he found needed but four races, and peaches, cherries, plums, and other stone fruits, were brought to perfection in three successive reproductions from the seed.

It will be remembered that it is a leading feature in this theory that, in order to improve the fruit, we must *subdue or enfeeble* the original coarse luxuriance of the tree. Keeping this in mind, Dr. Van Mons always gathers his fruit before fully ripe, and allows them to rot before planting the seeds, in order to refine or render less wild and harsh the next generation. In transplanting the young seedlings into quarters to bear, he cuts off the tap root, and he annually shortens the leading and side branches, besides planting them only a few feet apart. All this lessens the vigor of the trees, and produces an impression upon the nature of the seeds which will be produced by their first fruit; and, in order to continue in full force the progressive variation, he allows his seedlings to bear on their own roots.*

Such is Dr. Van Mons' theory and method for obtaining new varieties of fruit. It has never obtained much favor in England, and from the length of time necessary to bring about its results, it is scarcely likely to come into very general use here. At the same time it is not to be denied that in his hands it has proved a very successful mode of obtaining new varieties.

It is also undoubtedly true that it is a mode closely founded on natural laws, and that the great bulk of our fine varieties have originated, nominally by chance, but really, by successive reproductions from the seed in our gardens.

It is not a little remarkable that the constant springing up of fine new sorts of fruit in the United States, which is every day growing more frequent, is given with much apparent force as a proof of the accuracy of Van Mons theory. The first colonists here, who brought with them many seeds gathered from the best old varieties of fruits, were surprised to find their seedlings producing only very inferior fruits. These seedlings had returned by their inherent tendency almost to a wild state. By rearing from them, however, seedlings of many repeated generations, we have arrived at a great number of the finest apples, pears, peaches and plums. According to Dr. Van Mons, had this process been continued *uninterruptedly*, from one generation to the next, a much shorter time would have been necessary for the production of first rate varieties.

To show how the practice of chance sowing works in the other hemisphere, it is stated by one of the most celebrated of the old writers on fruits, Duhamel of France, that he had been in the habit of planting seeds of the finest table pears for fifty years, without ever having produced a good variety. These seeds were from trees of old varieties of fruit.

The American gardener will easily perceive, from what we have stated, a great advantage placed in his hands at the present time for the amelioration of fruits by this system. He will see that, as most of our American varieties of fruit are the result of repeated sowings, more or less constantly repeated, he has before him almost every day a part of the ameliorating process in progress; to which Dr. Van Mons, beginning *de novo*, was obliged to devote his whole life. Nearly all that it is necessary for him to do in attempting to raise a new variety of excellence by this simple mode, is to gather his seeds—before they are fully ripe—from a *seedling* sort of promising quality, though not yet arrived at perfection. The seedling must be quite young—must be on its own root — not grafted;—and it must be a healthy tree, in order to secure a healthy generation of seedlings. Our own experience leads us to believe that he will scarcely have to go beyond one or two generations to obtain fine fruit. These remarks apply to most of our table fruits commonly cultivated. On the other hand our native grapes, the Isabella, Catawba, etc., which are scarcely removed from the wild state, must by this ameliorating process be carried through several successive generations before we arrive at varieties equalling the fin-

*"I have found this art to consist in regenerating in a direct line of descent, and as rapidly as possible an improving variety, taking care that there be no interval between the generations. To sow, to resow, to sow again, to sow perpetually, in short, to do nothing but sow, is the practice to be pursued, and which cannot be departed from; and in short this is the whole secret of the art I have employed."—Van Mons' *Arbres Fruitiers*, 1. p. 223.

est foreign grapes; a result, which, judging from what we see in progress, we have every reason speedily to hope for.

In order to be most successful in raising new varieties by successive reproduction, let us bear in mind that we must avoid — first, the seeds of old fruit trees; second, those of grafted fruit trees; and third, that we have the best grounds for good results when we gather our seeds from a young seedling tree, which is itself rather a *perfecting* than a *perfect* fruit.

It is not to be denied that, in the face of Dr. Van Mons' theory, in this country, new varieties of rare excellence are sometimes obtained at once by planting the seeds of old grafted varieties; thus the Lawrence's Favorite, and the Columbia plums, were raised from seeds of the Green Gage, one of the oldest European varieties.

Such are the means of originating new fruits by the Belgian mode. Let us now examine another more direct, more interesting, and more scientific process — cross-breeding; a mode almost universally pursued now by skilful cultivators, in producing new and finer varieties of plants; and which Mr. Knight, the most distinguished horticulturist of the age, so successfully practiced on fruit trees. — *The Fruits and Fruit Trees of America.*

Agricultural Improvement.

Extract from a letter written by Judge Rost to the editor of the "Farmer's Library:"

"Agriculture, left in a great measure, to its own resources, has continued to improve, and has obtained great results. Whoever compares with England of the present day that which Cæsar invaded — a country covered with forests and marshes, where the inhabitants sowed no corn, and princes dressed with skins — will scarcely deny that Mind has had something to do with the change. The facts and the rules of action by which the change has been effected, form an important part of human knowledge; it is that knowledge which the agriculturist acquires from his ancestors. Learned professors may not call it Science, because it is not taught in Universities; it includes, notwithstanding, not only the art, but also the science of Agriculture; and it is vain to deny that both have, of late, advanced rapidly.— The system of interchange of crops — the use of green crops — the improvements in the breeds of all domestic animals — thorough draining — subsoil plowing — the use of many new manures — are all recent and valuable improvements. At this stage of progress, experiments were being made in various places, to discover the best mode of applying manure, and the kind of manure best suited to each particular plant. Gypsum had already been found to be the food of clover — bone-dust that of turneps; and there is no reason to doubt that European agriculturists would, without assistance, ultimately have acquired the knowledge, which the Chinese are said to possess, of feeding plants with the various substances they require at the different stages of their growth. Leibig came, and gave direction to their researches; he told them what each plant is made of, and what it feeds upon in the course of its development, and also how they could procure the feed it requires. Valuable as that discovery undoubtedly is, it forms no part of Agriculture, and belongs exclusively to Chemistry. That science now guides the agriculturist in his investigations, as Astronomy and the compass guide the navigator in his course.

It is no way to entice agriculturists to the acquisition of knowledge, to begin by telling them that they and their ancestors have been heretofore ruled by prejudice and sunk in degrading ignorance; and if, in addition to this, it is attempted to make them forsake the plow for the purpose of learning, not the science of Chemistry, but its words and phrases, depend upon it they will dismiss the Schoolmaster, and say of him, as the Haberdasher said of Mr. Pickwick, "the honorable gentleman is a humbug." Tell them the truth — tell them that the experimental mode of investigation is right, and must not be changed; satisfy them that, by following it, they have learned much, and raised their art to the dignity of a science. show them, then, in what manner Chemistry has lately placed within their reach the means of obtaining additional knowledge, and you may confidently trust them for the acquisition of it.

Very respectfully, your ob't servant,

P. A. ROST.

J. S. Skinner, Esq.

White Scours in Sheep.

This disorder is a peculiarly violent and uncommon looseness, occasioned by sheep feeding on putrescent vegetables, especially the shells of turneps. The diseased sheep must be separated from the flock, and three large spoonsful of the following mixture be given to them every second or third day, as the nature of the case may require: mix half a pound of finely powdered and sifted salt with one pint of old ver-juice, and then add half a pint of common whiskey. As poverty of sheep is the primary cause of this malady, the animals must be allowed the best and most wholesome of dry food, and should be carefully kept from wet.—*Practical Far.*

From the American Agriculturalist.

The Force of Habit.

My experience teaches me that I fail much oftener from inattention to little matters, than for want of general knowledge in the practice of farming. And this inattention in nine cases out of ten is the legitimate offspring of habit; and the reason why habit takes such an erroneous direction arises from the fact that our minds are naturally attracted by the magnitude of objects, without considering that this magnitude is only attained by the accumulation of single atoms.

To illustrate the importance of this idea, we will suppose two farmers, A and B, start at once in the business of farming with $1000 capital each. A saves six per cent. a year by exact economy, whilst B sinks property at the same rate. For a time, perhaps, we shall hardly be able to notice any difference in their thrift; but in the course of a few years we find A a wealthy farmer, and B. fast sinking to poverty. A fraction short of twelve years would suffice, at compound interest, to place A in possession of $2000, and B with $500. Twelve years more would give A $4000, and B $250.—Another twelve years would give A $8000, and B $125. Thus we see the result of habit in these two men in the important results produced, supposing providence favored both alike. But this is not all: habits generally acquire strength with the lapse of time. The man who sinks in the ratio of six per cent. at first, would soon reach twelve, and so on, until his accelerated speed dashed his fortunes in the irretrevable gulf of ruin.

Suppose now we look at the practice of these men a little in detail. They neither of them are dissipated men in their general habits, and as to integrity and common sagacity are good at work. But A has learned to calcalate a little closer. He knows it requires no more to keep a good cow than a bad one. Hence, then, we find him in possession of a little better stock. His cows give at least a quart of milk more a day than B's; his sheep yield a little more wool, and a little finer. Here then he saves a few dollars. A also seizes with avidity a few leisure hours to haul his muck, etc., for manure; whilst B feeling a little tired, or the oxen being in the pasture at some distance, thinks it best to omit it until he can hire a hand a day and get a good lot of it.—Thus A has a little more manure and of course a little better crop. So we see A not only producing more but the foundation of his prosperity widen in every direction.

But perhaps some one will say we can't help habit—it's second nature. Asking your pardon, sirs, I demur to this statement. You have the powers of reason, and the faculty of judging given you by your Creator, and no earthly power can hinder your exercising it. Accustom yourselves then, in every branch of your business, to ask this one question; is the method I propose the best, all things considered? Make a calculation of the profit or loss of every crop, and increase or diminish each kind as more or less profitable; having a reference to the permanent improvement of the soil. I have frequently been surprised at the results I have obtained in such calculations, and frequently altered my course very much to my advantage.

But you may not only improve your own habits by the discreet use of your judgment, but you have to do with creatures of habit. Even your domestic animals have habits which may gradually be moulded to your advantage. Seize every opportunity, then, to make them subservient to the great business of life. I will illustrate this by one very simple incident. I have a considerable range of woodland pasture, and I find by giving my cattle their salt at night near the outlet of the pasture, they soon learn to resort to that spot at that time of day. Another incident may be worth relating. I had come to the conclusion that a small lot of hens would more than pay for their keeping in destroying worms, &c., without any reference to their eggs or chickens, provided I could learn them to keep out of the grain.—Now for two years past I have not had a mite of trouble with them, though running at large all the time, and grain within ten rods of the house and barn. The simple and effectual remedy is to turn down a lot of corn or grain for them to go to as they please. And the way they turned out the eggs in consequence was a caution to those who neglect to feed thir biddies. J. H. Jenne.

Peru, Me., June, 1845.

Fistula and Poll Evil.—The simplest, as well as readiest cure for these two diseases, that ever came to my knowledge, is common table salt. My neighbor, Mr. Ramsburg, took a horse a few years ago, that had a fistula, and after every other effort had been made to cure him, without the least effect, he threw into the ulcer a handful of salt, and the good effect was soon perceptible. The salt was repeated every day or two, and in a short time a cure was effected.

Last summer, I had a mare that had the poll evil, and I cured her also with salt applied in the same way. I put, however, a small bit of red precipitate in the wound, twice. Both animals are at this time well and serviceable.—[*Geo. Alessing, Alb. Cult.*

Account of an Experiment in Deep Plowing.

BY REV. JOHN JAFFRAY, DUNBAR, EAST LOTHIAN.

The experiment was made upon a small field, which is sixty-five feet above the level of the sea. The soil is sandy, resting upon a subsoil of sand and gravel of great depth, and so thoroughly drained by the declivity of the surrounding lands, the want of moisture is its natural effect. There is but little difference between the soil and the stratum on which it rests beyond what culture and manure have made; but, from sinking of gravel, treading of horses, and pressure of the plow, year after year, and age after age, the subsoil had become crusted, hard and beaten as a road. In short, from shallow plowing, there was but little of cultivated earth; and, as on all such soils in dry seasons, the crop was scorched and scanty. With a view to render this field fruitful in any season, it was subsoiled with the Deanston plow, eighteen inches deep, and sown with wheat for crop 1837. The great vigor and luxuriance of the crop attracted general notice; and it must have yielded an extraordinary increase, if it had not been lodged by wind and rain shortly after the ear appeared.—Therefore it gave only thirty-eight bushels of grain to the acre, but three tons of straw, which proved its great strength. To this crop, one of potatoes and two of wheat succeeded; but it is the culture of this field for crop in 1841, and the result, which chiefly constitute this report.

It was all equally dressed with seaware; and four acres of the same quality and description were measured and staked off. Two of these acres were plowed twelve inches deep, with two horses, and two of them eighteen inches deep, with four horses.—These two portions in all other respects were cultivated and managed exactly alike. They were planted with potatoes of the Don species in the last week of April, eight inches deep, twelve inches asunder, and in drills thirty inches wide, running at right angles to the furrows of the experimental plowing. The potatos were planted deeper than usual, therefore the shoots were longer in coming through the ground; but when they did appear, it was with great strength and regularity. They expanded their broad deep-green leaves, and grew vigorously, in the dry sandy soil, in a very severe and long continued drouth. It was soon evident that the deepest plowed portion had the advantage; the stems and branches of its plants were stronger, and they first covered the ground.

The potatos were lifted in the last week of October, when it was found that the land plowed twelve inches deep produced fifty-seven bolls per acre, and the land plowed eighteen inches deep produced sixty-nine bolls per acre, being a difference of twelve bolls per imperial acre, of four cwt. to the boll.

It is a condition annexed to the premium offered by the Highland and Agricultural Society for experiments in deep plowing, that one half of the land used "shall be cultivated in the ordinary way." By evidence before the Agricultural Committee in 1836, the depth of plowing in this country is from *six* to *nine* inches. If that depth had been taken for the lowest extreme in this experiment, the difference in the production of the two portions, it is believed, would have been greater; but as this field had been plowed *twelve* inches deep for years, its ordinary depth was adhered to, and the difference is certainly sufficient to establish the advantage of deep plowing.

As to the quality, it is excellent for the season from both portions of the land, and in that respect there is no difference. The potatos from the deep tillage were larger, more of one size; had fewer small ones, and not so many of a green color as those from the other division.

The quantity on the deep tillage is eighty-seven bolls per Scots acre, which is a good crop for any year; and it will readily be granted that it is far above the average of the district this year, many fields not producing half a crop. A superiority so striking must, therefore, be ascribed to deep culture, being on both portions deeper than ordinary, which furnished moisture in a very dry and scorching season to a sandy soil, and raised its produce above that of richer lands. But though this is a greater crop for the season, it must have been still greater if the field had been less exposed, as it has no shelter; and three days of very violent wind in the first week of August broke down the plants, which, from their great luxuriance, were then very tender, and checked their growth.

The practical conclusions to be drawn from this experiment are—

First, That deep plowing increases the produce.

Next, That, as both portions of the land used in the experiment were opened up eighteen inches deep by the subsoil plow for crop 1837, the full benefit of that operation is not obtained till the earth so loosened is again plowed up. And the reason is evident; for it is then only that the soil is deepened, by an addition from the subsoil with which it is intermixed, and rendered more fruitful.

Lastly, If deep plowing increases the produce, it increases also the supply of vegetable manure; and a greater portion of manure added to improved culture, must produce a progressive increase of fertility and of produce.

Good Cooking vs. Poor.

The advantages of good cooking are so many and various that it is not easy to string them all together; nor is it perhaps the fact that one in a hundred of all who practice either good or poor even reflect on the reasons of it. It is done either from habit or from that sense of propriety which is nigher to an instinct than any thing else—and in which the female part of our species so much excel. Still it is obvious that the matter is as well worthy of reflection and study as any other which concerns daily avocations or domestic life.

To divide the subject off in sermon-like fashion—the principal reasons may be ranked under three heads; viz: Personal comfort, Health, and its bearing on moral and intellectual culture. Housekeepers may be likewise divided into three ranks in relation to their modes of doing business. One class by every thing uniformly well—neatness, taste, and economy are always consulted.—Another class vary from one extreme to another—to-day the work of the house is well done; a good loaf of bread is made this time; the next a villanously sour, heavy, unpalatable and indigestible one; to-day a good dinner; next time hard fare. The third class do things uniformly ill. The house is dirty and uncomfortable—the furniture ill arranged and poorly, if at all, taken care of; and the cooking is always out of joint.

Now if a little observation be exercised, it will be seen that the dispositions of such housekeepers will be in accordance, to a good extent, with their modes of doing business. The one who does nothing well, will not be well in mind if in morals. Where the sun never shines the air is dark and gloomy, and commonly unhealthy.

But to our cooking. Can any one estimate the probable different modes of preparing food? Is it not reasonable to suppose that when this is illy done, the health of a family should suffer? It is impossible that heavy, half cooked bread, meat fried to the dryness and toughness of Manilla rope, and potatoes boiled and then soaked in the water they were cooked in, can be taken into the stomach habitually without injury.

In connection with this matter, does any one know how much the tendency of our climate towards billious and intermittent fevers is favored by the habits of our western population of eating warm bread and drinking strong coffee, and eating a large proportion of animal food, without fruit or vegetables! This course is exactly calculated to produce the secretion of carbonic matter in the system, and of course to overstimulate the liver, which is the seat of billious diseases, and hasten a result which the climate is disposed to produce. It is reasonable to suppose the neatness in the preparation of food *must* have no inconsiderable effect upon health. We are not about to quarrel with that fiat of fate which prescribes "the peck of dirt," to each person—we subscribe to that—but we demur when the peck swells into a bushel, and turn absolutely restive when the bushel grows off into *bushels*.

Of how much family discord has bad cooking been productive! The young husband may for a time be content that his bride is beautiful and graceful; but a succession of bad dinners, heavy bread, slop coffee, &c. &c., will in time dispose him to wish that a grace or two might be exchanged for skill in housekeeping; and to feel that a tint or blush less might easily be endured, could he have a neat, well-arranged table, and a good slice of bread and butter.

Comfortable, quiet disposition, and pleasant tempers, are productive of health and long life; and are important aids to intellectual and moral culture. It is no small matter then that all sources of irritation and uneasiness are avoided; and any one who secures this does an important service. This is peculiarly the office of the female sex; and it is no mean one. Let it not be deemed then that the aim to learn to cook well is a low or small aim; nor the ambition which seeds it, a trifling ambition. It is, to confer health and peace, mental and moral vigor on friends and kindred! The woman who does this does a great work; and though the different steps by which it is secured are by themselves unimportant, they are great in their results. Our advice is—learn to cook well.—*Prairie Farmer.*

Agriculture, Manufactures, and Commerce.

We extract the following from an address delivered before the "Bourbon Agricultural Society" by A. M. Brown, Esq., formerly of this city, now a resident of Paris, Ky.

"Agriculture bears some such relation to manufactures and commerce as the specie, in the vaults of a bank, bears to its circulation. If its issues be pushed beyond a certain proportion to its specie basis, a single reverse in business, the failure of a single large creditor may involve the whole concern in bankruptcy and ruin. So with nations, when their manufactures and commerce have been carried beyond the capacity of their agriculture to support them—when their safety depends, not upon resources at home, but upon the power to command them from abroad, a single change in the commercial relations of the world—the rise of a successful rival—a single unsuccessful war, or even a single naval defeat, may put

an end at once to their wealth and greatness.

The decline and fall of the Rōman empire has been well attributed, in a great degree, to the neglect of agriculture at home, and the dependence, for the necessaries as well as the luxuries of life, upon her conquered provinces. But, without going back to ancient history, we have, in modern times, a remarkable example of the effect produced upon a great agricultural nation, by the abandonment of domestic industry. I refer to Spain, with whose present melancholy condition you are all familiar. Spain, at the time of the discovery of the West India islands, by Columbus, was the first of the European States in power and importance. Her great extent of territory teeming with all the productions of a fertile soil and genial climate — her population, industrious as it was martial, placed her in advance of all other nations. The discovery of the new world opened to her the mines of Mexico and South America, with the prospect of boundless wealth and irresistible power. Yet from that moment Spain has constantly declined. The reason of it is easily seen and soon told. It was the result of the neglect of agriculture—the stagnation of industry at home. Who would toil in the fields, when diamonds could be had for the digging in the hills of Brazil — who could work in stubborn iron, when visions of gold were glittering constantly through his excited imagination—who would freight ships with the coarse produce of the soil, or the cheap fabrics of his own skill, when every galley, that anchored in the port, came laden with wedges of silver and ingots of gold! Agriculture was neglected—manufactures was abandoned — the necessaries, as well as the luxuries, were imported from abroad. A wild spirit of speculation took the place of quiet industry and healthy enterprise — luxury and extravagance succeeded to frugal habits and honest thrift — bad laws and bad morals were the result. The ambition of the Spanish king was stimulated, and hurried him into wars, which even the vast resources of his mines were insufficient to support. His armies were buried in the ditches of Holland—his armada, self styled the invincible, was scattered by the winds, and sunk by the navy of England, and his treasure ships fell a prey to British enterprise and cupidity. Spain is now but the melancholy wreck of what she was. Once the proudest, she is now the poorest and weakest of the great States of Europe. Her fertile soil has become almost a barren waste. The vega of Grenada, once blooming like the rose, and clad in all the fruits of that glorious climate, is now a leafless desert. The sound of the artizan's hammer is scarcely heard in the workshops of Toledo, and the hum of busy traffic and thrifty industry is silent in the streets of Seville. Agriculture is almost entirely abandoned--the internal resources of the State are nearly dried up. His poverty, his pride and the memory of the past, are the only inheritance of the modern Spaniard."

The Teeth.

L. M. Child says,—"The prevalence of defective teeth in this country is the general subject of remark by foreigners, and whoever has travelled in Spain or Portugal, is struck with the superior soundness and whiteness of teeth in those countries.

"Nobody need to have an offensive breath. A careful removal of substances from between the teeth, rinsing the mouth after meals, and a bit of charcoal held in the mouth—will always cure a bad breath.

"A lump of charcoal held in the mouth, two or three times a week, slowly chewed, has a wonderful power to preserve the teeth and purify the breath. The action is purely chemical. It counteracts the acid arising from a disordered stomach, or food decaying about the gums; and it is this acid which destroys the teeth.

"A dear friend of ours had, when about twenty years of age, a front tooth that turned black; gradually crumbled; and so broke off piecemeal. By frequently chewing charcoal, the progress of decay was not only arrested, but nature set most vigorously to work to repair the breach; and the crumbled portion grew again, till the whole tooth was sound as before! This I know to be a fact. Every one knows that charcoal is an antiputrescent; and is used in boxing up animal or vegetable substances, to keep them from decay. Upon the same chemical principle, it tends to preserve teeth and to sweeten the breath. There is no danger in swallowing it: on the contrary, small quantities have a healthful effect on the inward system, particularly when the body is suffering from that class of complaints peculiarly incident to summer. It would not be wise to swallow that, or any other gritty substance, in large quantities."

Miss Dix.—This indefatigable woman, says the Newark Advertiser, visited the State Prison during her stay at Trenton, and finding the prison without a Library, and destitute of other stated means of moral instruction, resolved to provide one through her individual resources.

Give me a virtuous woman, and I will make her a fine woman.

The Potato Disease in Europe.

Some persons in this country have supposed that our deficiency in potatoes might be made up, in corn measure, by importations from Europe, but the disease is as extensive and fatal in that quarter as in this. Excepting in the north of England it prevails throughout England, Ireland, and Scotland, and in many places on the continent. In some parts of Europe the potato constitutes the principal for human sustenance as well as a large portion for animals, and this calamity will be severe indeed.

In that quarter, as well as in this, there are many conjectures as to the cause of the disease, and different opinions prevail as to its operation. Some attribute it to extremely hot weather, which produced a very rapid growth, and the cold, wet weather which succeeded, causing a chill and stagnation of the juices, and consequently decay. Some writers state that the disease commenced in the leaves, while the tubers were sound; others say that it commences in the root, and that the top of the potato, and nose end, are frequently first affected. Again it is stated by others that the disease commences first just above the old potato, and then spreads to the new tubers and to the tops.—Thus, after numerous experiments, and investigations all seems mere conjecture and uncertainty.—*Boston Cultivator.*

Manufacture of Manure.

I think I may affirm, from what I frequently witness in the mode of making and managing manure, that many do not sufficiently consider the great difference between strong and weak manure, in its fructifying quality and durable effects in invigorating the land to which it is applied; and this is an important thing for every farmer to well understand. If straw and hay only, without cake or corn, compose the manure that is taken to the land (and many, to my knowledge, even of those who could well afford to buy them, continue this bad practice,) comparatively it is as sour small bear to a man who has an extraordinary task to perform, and needs the aid of a powerful stimulant to enable him to accomplish it. As the man would fall short under such treatment, so does the land fail in like manner. Now if I can show that the corn given to stock upon a farm, is all returned in extra produce, besides manifold advantages, which your sagacious readers will readily discover, surely all that have the means of entering upon this system will do so. I will take my own business for an example. I shall this winter use 100 quarters of corn upon my stock, exclusive of horses. I calculate the manure which I shall make with which this corn is incorporated will manure well thirty-six acres, and as my system of farming is three crops and a fallow, three crops will be gathered before the same land will be manured again. I will ask any practical farmer, may I not reasonably calculate upon a quarter of corn per acre more upon each of the three crops, than I might have expected, had I put on the same land the same quantity of manure of the weak kind, made from hay and straw alone? Assuming, then, that I get one quarter of corn more in each of the three crops, by using the corn, the thirty-six acres in three years return 108 quarters extra produce for the 100 expended. Of course it will be obvious to every practical man, that manures should not lie in the yard, exposed to the washings of heavy rains, but made principally under cover, and frequently collected into a heap, and well secured until taken to the land, and especial care taken that the fermentation does not become too rapid; to prevent which any thing may be mixed when it is put together, that is likely to check and cool it. I use sand when I cannot obtain any-thing better for that purpose, and to cover the heap over to prevent it being weakened by evaporation. A farmer does not require a philosopher or a chemist to inform him wherein the strength of manure consists; he has only to refer to his cattle stalls, his pig-sty, and dove-cote; it is there seen that the manure that contains the most corn in proportion to other matter composing it, is invariably found to be the strongest and best.—[*A farmer in Bell's Weekly Messenger.*

Good Agricultural Rules.

"Whatsoever thy hand findeth to do, do it with all thy might."

The above injunction, which is to be found in *the* book of books, if it had been written as a rule for the guidance of agriculturists throughout all time, could not have been more happily adapted to the business, circumstances, and duties, of those who derive their living by the cultivation of the earth. Wisely does it prescribe, that that which is to be done should be done with all the might within the physical ability of the laborer or he who may direct the labor of others. True, indeed, is it, that the work of the farm, when necessary to be done, should be commenced and completed without let or hindrance, for unless the entire "might" of the operator be brought to bear upon the preparation of the soil, the putting in his seed, or the tending of his crops, disappointment will inevitably be his portion, for neither the seasons, nor the weeds of the field, will await the tardy operations of the sluggard. That which should be done to-day, never should be de-

layed until to-morrow, as a change of weather, ere to-morrow may come, and put it out of our power not only to then act, but delay exertion for days, during all which time crops may be suffering—nay they may suffer on until the point of safety shall be passed.

We will conclude in the language of our text—"Whatsoever thy hand findeth to do, do it with all thy might"—*do it at the right time, and do it well, for that which is worth doing, should be done in season, and done well.*"—*American Farmer.*

Facts in Wheat Culture.

The past season has been marked by some important developments in the culture of wheat.

Dr. Noble, of Delaware, has tried the relative advantages of planting wheat in drills, nine inches apart, and sowing it broadcast in the usual way. The soil and treatment in other respects were precisely alike. The result was thirty-four bushels on the sown land, and forty-two on the drilled. These experiments were made on fields of some acres.

By planting the kernels just six inches apart each way, and feeding the plant on food containing, in a soluble state, all the elements necessary to build up its entire system, including the materials to form the straw, as well as the berry, a gentleman in England has grown at the rate of 166 bushels per acre!

Mr. James Campbell, of Scotland, has tried several interesting and successful experiments in the way of soaking seed wheat, barley and oats with a saturated solution of neutral salts, containing, as nearly as practicable, the precise elements found in the grain. The object of this was to secure to the young plant a double supply of its appropriate nourishment. The effect has been a large increase in the crop, at a very trifling expense.

Other experiments have been tried in France, with a view to determine what portion of the *organic*, as well as mineral elements found in cultivated plants, is derived from the soil in which they grow, and what from the atmosphere. This is an important inquiry, and one that should be prosecuted in this country. The people of this State have paid something more than $300,000 for a geological survey of its territory. A tithe of that sum judiciously expended to diffuse among all our rural population a knowledge of the science of agriculture, would confer a tenfold greater benefit on the community at large. Breadstuffs and provisions must be produced with as little labor in New York as out of it, or farming will be a very losing business in the Empire State.

The manufacture of human food, like the fabrication of clothing, will soon be profitable to those only that combine the greatest skill and knowledge with manual toil. If a farmer will not study the laws of nature, which govern the transformation of certain elements of earth, air and water into corn, oats and potatoes; and the farther changes of these vegetables into pork, beef, milk and wool, his hard labor will be of little worth.

Gen. Farmer, 1844.

Working for a Living.

The following excellent article in the "Offering," edited by the Factory Girls of Lowell, breathes the right spirit:

"Whence originated the idea that it was derogatory to a lady's dignity, or a blot upon female character to labor; and who was the first to say, sneeringly, "Oh, she works for a living!" Surely, such ideas and expressions ought not to grow on republican soil! The time has been when ladies of the first rank were accustomed to busy themselves in domestic employment. Homer tells us of princesses who used to draw water from the springs, and wash with their own hands the finest of the linen of their respective families. The famous Lucretia used to spin in the midst of her attendants; and the wife of Ulysses, after the siege of Troy, employed herself weaving until her husband returned from Ithaca.

The Wisdom of Inexperience.

A young farmer recently told us he had been preparing an acre of his meadow land and seeding it precisely in the mode that the Plowman has been urging—that is, he covered the standing grass with gravel and loam, then put on his compost manure and sowed his seed immediately. An old farmer, who never learns any thing by reading, endeavored to persuade the young man that the land ought to lie one year after the grass was buried before sowing the new seed—he said this is the plan he is now trying, and he gave many wise reasons in its favor.

But our young farmer disregarded his advice and followed the rules of the Plowman. The truth was the old farmer had lost a whole year's harvest by suffering his land to lie after it was prepared for his manures. And farther, the young man noticed that by lying one year without seeding, the wild grasses had sprung up and would be likely to choke the better blades that they had got one year the start of.

We have noticed numerous instances of this kind. People who will continue ignorant in spite of all experience argue against

sowing grass seed on a green swaid furrow because they were taught to rot it first—So they fear to throw seed on a bog meadow till the wild grasses have occupied the ground, waiting to let what the gravel and loam had covered rot one year, and rest, in order to bear well its new burthen of English hay.

We often see twice as much labor expended as is needed to subdue these bogs. We have shown this summer from a trial of our own, that when the materials are handy, and the surface tolerably smooth, an acre may be prepared to receive the manure at an expense of twenty days' labor.—*Massachusetts Ploughman.*

National Wealth.

Every one knows that heavy imports and light exports will in time render any nation bankrupt, while the reverse cannot fail to enrich. It hence becomes an object with every patriot to discover and promote such kinds of business as will increase the exports of the nation.

A large part of the United States is finely adapted to the cultivatien of *fruit*. American apples of the best quality sell at very high prices in Europe. In one case a successful cultivator in this State, by a very careful selection of the finest, obtained twenty-one dollars per barrel for Newtown Pippins, sold in the London market, and nine dollars per barrel is the usual price he obtains there for his best fruit.

Now, every cultivator knows that hundreds of bushels may be obtained from an acre under the very best management and cultivation. What then could more contribute to national, as well as to individual prosperity, than extensive plantations of those varieties of the apple, pear, and other fruits, as are best adapted to conveyance to a distance. There is no doubt that if the northern and middle States were able to furnish large quantities of the very best kinds that markets would be opened in many parts of the world where such articles are now unknown. An acre of fruit will often yield more than ten times as many bushels as an acre of the best wheat, and at far less expense in labor. There is no question, therefore, that millions of dollars worth might be yearly sent out and scarcely interfering with the amount of grain and other farm crops already raised. Nor need any fear of overstocking the market, while our own cities and large villages are so scantily supplied with the best sorts, some of the best having yet rarely every passed the bounds of the amateur's garden, and most of the best being yet unknown to nineteen-twentieths of purchasers.

The Steam Engine.

Years have rolled away and the visions of the tea-kettle have been realized.

Talk of political revolutions, they are nothing to the revolutions of science. Amid the roar of a conflict which shook Europe, the ancient dynasty of France fell prostrate, crumbled with the ruins of its own Bastile. And now new bastiles are being created—new forts erected—the tools with which tyranny played its game of yore; the chains are again clanking on the people who once so nobly burst them. But there is no such reaction in the revolution of science. The echo of the cheery hiss of the old tea-kettle, when the boy Watts sat dreamingly listening to it, is to be heard in the loud roar of the steam-pipe, rising often above the din of wind and waters, and proclaiming to both that a mighty power is battling their fierceness.

There is, to our thinking, something awfully grand in the contemplation of a vast steam engine. Stand amidst its ponderous beams and bars, wheels and cylinders, and watch their unceasing play; how regular and how powerful—the machinery of a lady's Geneva watch is not more nicely adjusted—the rush of the avalanche is not more awful in its strength. Old Gothic cathedrals are places, preaching solemn lessons, touching solemn things; but to him who thinks, an engine-room may preach a more solemn lesson still. It will tell him of mind—mind wielding matter at its will—mind triumphing over physical difficulties—man asserting his great supremacy—intellect battling with the elements.

Heading Cabbages in Winter.

In the fall of the year when it is time to gather cabbages, we always find more or less of them that have not formed any heads. They may have grown well and have a large stock of leaves, but have not closed up in the form necessary to make a good, solid, compact cabbage.

A farmer friend of ours, has practiced for many years the following method, which effectually closes these loose leaves in the course of the winter, thereby furnishing him with a supply of the best kind early in the spring. In the fall of the year, just before the ground closes up, he gathers all the cabbages which have not then headed, together. He then digs a trench eighteen inches or more deep and of sufficient width; he then closes the leaves together by winding a wisp of straw or something else around them to keep them together, and then puts them into this trench, with heads down and roots up. He then packs straw

or leaves and earth snug obout them, and rounds up the earth over them. The trench should be dug in a place where the water of the rains and the snows run off and will not stand about them. A board, or a couple of boards nailed together in the form of a roof and put over the mound, may be useful.

In the spring of the year open your trench and you will find that your cabbages are all headed firmly together, and if the water has not got in, will be solid and hard. We once tried a few heads formed in this way, which were very nice. By following this plan, we not only preserve the cabbages well, during the winter, but save much of the crop which is considered worth but a trifle.—*Me. Far.*

Electro-Agricultural Experiment.

Dear Sir—On the 7th August, I prepared two boxes of the same size, and filled them with earth from my garden, taken out of the same bed, placed them side by side, and sowed them with mustard seed simultaneously.

I applied to one box a galvanic battery, consisting of a plate of sheet copper and a plate of zinc, and connected them by a copper wire soldered to the plates and pressed into the ground at each extremity of the box, so deep, that the galvanic current might pass immediately below the roots of the plants.

On the 12th, the seed germinated in each box, and showed no difference in the progress of their growth during the existence of the *seminal leaves*. (A farther proof, if any were necessary, that the seminal leaves supply all the nourishment to the plant during the first stages of its developement.) On the 16th, a marked difference appeared in the galvanized box, the plants being a full third larger and as much stouter than the other box, and by the first of September the galvanized plants were twice as large and of a deeper green, and in every respect of a healthier appearance, and have continued to be so to this day.

I consider this experiment a perfect demonstration that galvanism exerts a favorable influence on vegetation. I enclose a plant taken from each box.

Germantown Telegraph.

Manners.—Manners are of more importance than laws. Upon them in a great measure the laws depend. The law touches us but here and there now and then. Manners are what vex or soothe, corrupt or purify, exalt or debase, barbarize or refine us, by a constant, steady, uniform, insensible operation, like that of the air we breathe in.—They give their whole form and color to our lives. According to their quality, they aid morals, they supply them or they totally destroy them.—*Burke.*

Pickling Cucumbers—A correspondent of the New England Farmer gives an efficacious method of pickling cucumbers, which he learnt from an old sea captain in the West Indies. The recipe is very simple, and the superiority of pickles cured by this direction has been tested by many years' experience. They are neither affected by age, season or climate. The following is the recipe:—To each hundred of cucumbers put a pint of salt, and pour in boiling water until the whole is covered. Cover them tight to prevent the steam from escaping, and in this condition let them stand twenty-four hours. They are then to be taken out, and after being wiped perfectly dry, (care being taken that the skin is not broken,) placed in the jar in which they are to be kept. Boiling vinegar is then to be put on them, the jar is closed tight, and in a fortnight delicious hard pickles are produced, as green as the day they were on the vines. The best vinegar to be used.

Coal.—The United States contains 80,000 square miles of coal, which is about sixteen times as great as the coal measures of Europe. A single one of these gigantic masses runs from Pennsylvania to Alabama, and must embrace, itself, 50,000 square miles. Out of fifty counties of Pennsylvania, no less than thirty have coal and iron in them; and out of the 46,000 square miles of Pennsylvonia, which forms it superficies; there are 10,000 miles of coal and iron, while all Great Britain and Ireland have only 2,000—so that Pennsylvania alone has an area of coal and iron five times as great as that of Great Britain, and they have the advantage of lying near the water level; while those of the latter country are sometimes more than one thousand feet below the level of the surface, and are excavated thro' subterranean passages.—*Hunt's Merchants' Magazine.*

To Horsemen.—The New York Sun gives the following instructions in horse-back riding: "When a horse runs away with you, have the presence of mind to catch hold of his maine, wind your bridle round his neck and pull upon it; it will have the immediate effect of stopping his career, however headlong it may be. Or if your bridle is not long enough, clasp your arms around his neck, and clinch his windpipe; by doing this you will effectually stop him the moment his respiration is checked. Persons having but a small portion of presence of mind may thus save their own or a fellow-creature's life.

Never deceive your physician, your confessor, nor your lawyer.